WHAT IS CLAIMED IS:

1. A liquid chromatograph comprising:

a fraction flow path which directs a sample injected from a sample injection port to a primary analysis column with a primary analysis mobile phase for separation, and holds separated component(s) of the sample as a fraction together with the mobile phase in a fraction unit;

a trap flow path which sends the component(s) and the mobile phase held in the fraction unit to a trap column with a diluent so that the component is trapped for condensation, wherein a flow path that sends the diluent to the trap column comprises a first diluent flow path that passes through the fraction unit and a second diluent flow path that allows the diluent to join with the first diluent flow path on the downstream of the fraction unit, the first and second diluent flow paths being provided with solvent pumps that determine respective flow rates independently; and

an analyzing flow path which directs the component(s) trapped by the trap column to a secondary analysis column with a secondary analysis mobile phase for analysis.

2. The liquid chromatograph according to claim 1, wherein

at least one of the solvent pumps installed in the first and second diluent flow paths is jointly used as a solvent pump for a primary analysis mobile phase, on the upstream of which a switching valve which switches the supplies of the primary analysis mobile phase and the diluent is provided.

3. The liquid chromatograph according to claim 1, wherein

the fraction unit is provided with a fraction loop which comprises a plurality of flow paths aligned in parallel with one another that are selectable by using distributing valves.

4. The liquid chromatograph according to claim 1, wherein an NMR substitution flow path for substituting the mobile phase existing at least in the trap column with a heavy-hydrogenated solvent is connected to the trap column.